

Robotics with Virtual Reality!

Empower your students in building the future with hands-on robotics, no tools required, through immersive virtual reality experiences.



Robotics Skills Modules







Designed for hands-on learners, this immersive training experience lets you assemble complex robots from the ground up, operate them in realistic environments, and diagnose & fix technical issues like a pro.

Key Features:

- · Robot design & assembly
- Control system operation
- Troubleshooting & repairs
- Safety protocols & best practices

Next Generation Science Standards

- MS-ETS1-1
- MS-ETS1-2
- MS-ETS1-3
- MS-ETS1-4

Benchmarks for Science Literacy

- 3A/M3
- 3B/M4a
- 3C/M8

ISTE Standards for Students

- 4a
- 4c
- 4d

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Robotics Skills Modules

25 robotics skills available on Meta Quest VR headsets

CONSTRUCT & OPERATE CHALLENGE MODULES

- Same Day Delivery: Demonstrate proficiency in basic tank-style driving controls.
- Kaiju Catastrophe: Build a robot capable of flattening the city in the movie set.
- **Sandwich Server**: Deliver a sandwich in a bustling restaurant, keeping it upright and on the plate, while uncovering hidden bonus challenges.
- Roaring Refuse: Build a robot that can pick up the companion cube and place it in the incinerator.
- **Pinata's Peril**: Design a robot capable of reaching elevated targets and breaking them efficiently.
- **Tippy Toe Tidy Up**: Guide your robot to clean a dusty bedroom without disturbing its sleeping occupant or moving furniture.
- Wood & Chips: A robotics challenge to players cut and load dead trees, remove branches, and transport logs.
- **Robo Coffee**: Get the robot to prepare and deliver a custom coffee order while navigating obstacles.
- **The Berry on Top**: Build robots capable of decorating at least two out of three cakes on an assembly line with cherries.
- **Freights in High Places**: A robotics challenge to move a shelf of pallets while traveling through an obstacle-filled environment.
- **Soda Me**: A robotics challenge of getting a soda into the hand of the human without damaging the soda.
- **Chrome Thumb**: A robotics challenge of getting a robot to till, plant, and water crops inside a fenced garden.
- **Silicon Sonata**: Build robots capable of grabbing the cello and the bow, turning both items, and moving the bow back and forth across the cello strings.



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- **Across the Goo**: A robotics challenge of turning valves in a chemical goo factory in order to stop a goo leak.
- **Byte of the Living Dead**: A robotics challenge of navigating an obstacle-filled store, detaining zombies, breaking down barriers, and rescuing humans.
- **Dance, Dance Robot Revolution**: Create a robot that can hit at least 70% of the floor targets during a complicated dance routine.

ROBOT REPAIR CHALLENGE MODULES

- Center of Mass Balance the robot's parts so that its mass is centered.
- RPM: Adjust the RPM of a robot so that its wheels move faster than the conveyor belt that it's on.
- **Motor Controls**: Reconfigure controls to fix a robot that can only turn in circles. Map inputs to motors and restore full movement.
- Resize Piston: Resize the robot's piston to reach the keyboard using the resize tool.
- **Flip Motor Direction**: Reverse one side's motors and get your robot driving straight in this RoboRepair challenge.
- **Transmitters**: Use the right hand and left hand transmitters to create a complex control scheme for nested robots.
- **Sliding Joints**: Change the joint types in a claw machine so that the claw can move around.
- Rotational Joints: change the joint type on a robot so that it can turn a key inside
 of a locked treasure chest.
- Surface Joints: Change the joint type on a machine so that the bowling ball can
 make it down the ramp and hit the bowling pins.

